



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

FEB 06 2015

Performance Diesel, Inc.
Attn: Mr. Jerad Wittwer
4160 South River Road
St. George, UT 84790

Through: Richard J. Angell
Parsons Behle & Latimer
201 South Main Street Suite 1800
Salt Lake City, UT 84111

Re: Notice of Violation

Mr. Wittwer:

The United States Environmental Protection Agency (EPA) has investigated and continues to investigate Performance Diesel, Inc. (PDI) for compliance with the Clean Air Act (CAA), 42 U.S.C. §§ 7401–7671q, and its implementing regulations. As detailed in this Notice of Violation, the EPA has determined that PDI sold parts or components for motor vehicle engines that bypass, defeat, or render inoperative elements of design of those engines that exist to comply with CAA emission standards. The EPA has also determined that that PDI knew or should have known that these parts or components were offered for sale or installed for such use or put to such use. Therefore, PDI violated section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B).

Law Governing Alleged Violations

This Notice of Violation arises under Part A of Title II of the CAA, 42 U.S.C. §§ 7521–7554, and the regulations promulgated thereunder. These laws reduce air pollution from mobile sources of air pollution. In creating the CAA, Congress found, in part, that “the increasing use of motor vehicles . . . has resulted in mounting dangers to the public health and welfare.” CAA § 101(a)(2), 42 U.S.C. § 7401(a)(2). Congress’ purpose in creating the CAA, in part, was “to

protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population," and "to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution." CAA § 101(b)(1)–(2), 42 U.S.C. § 7401(b)(1)–(2).

The CAA requires the EPA to prescribe and revise, by regulation, standards applicable to the emission of any air pollutant from new motor vehicles or new motor vehicle engines which cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1), (a)(3)(B). Heavy duty diesel engines (HDDEs) are one category of motor vehicle engine for which the EPA has promulgated emission standards. *See generally* 40 C.F.R. Part 86, Subpart A (setting emission standards for HDDEs). As required by the CAA, the HDDE emission standards "reflect the greatest degree of emission reduction achievable through the application of [available] technology." CAA § 202(a)(3)(A)(i), 42 U.S.C. § 7521(a)(3)(A)(i). Accordingly, the EPA has established increasingly stringent HDDE emission standards. 40 C.F.R. §§ 86.004-11, 86.007-11, 86.096-11, 86.098-11, 86.099-11.

HDDE manufacturers employ many devices and elements of design to meet emission standards. *Element of design* means "any control system (i.e., computer software, electronic control system, emission control system, computer logic), and/or control system calibrations, and/or the results of systems interaction, and/or hardware items on a motor vehicle or motor vehicle engine." 40 C.F.R. § 86.094-2. For example, HDDE manufacturers employ retarded fuel injection timing as a primary emission control device for emissions of oxides of nitrogen (NO_x). EPA, *Heavy-duty Diesel Engines Controlled by Onboard Computers*, VPCD-98-13, at 4 (HD Engine) (Oct. 15, 1998); *see also* 59 Fed. Reg. 23,264 at 23,418 (May 5, 1994) ("[I]njection timing has a very significant impact on NO_x emission rates, with advanced timing settings being associated with higher NO_x . . ."); *id* at 23,380–81 ("A feasible and simple means of reducing NO_x from diesel engines is by retarding injection timing. . . . However, disadvantages include higher specific fuel consumption, lower power, harder startability, and higher levels of HC, CO, particulate matter and smoke emissions."). Manufacturers also employ certain hardware devices as emission control systems to manage and treat HDDE exhaust to reduce levels of regulated pollutants from being emitted into the ambient air. Such devices include diesel particulate filters, exhaust gas recirculation, and selective catalytic reduction. Modern HDDEs are equipped with electronic control modules (ECMs). ECMs continuously monitor the engine and its emission control systems to ensure that conditions are within normal operating range. ECMs also control several aspects of the engine, including the fueling strategy.

The CAA makes it a violation "for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use." CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B). It is also a violation to cause any of the foregoing acts. CAA § 203(a), 42 U.S.C. § 7522(a).

EPA Certification Program

To ensure that every HDDE introduced into United States commerce satisfies the applicable emission standards, the EPA runs a certification program. Under this program, the EPA issues certificates of conformity (COCs), and thereby approves certain HDDEs for introduction into United States commerce. 40 C.F.R. § 86.007-30. To obtain a COC, an HDDE manufacturer must submit a COC application to the EPA for each engine family and each model year that it intends to manufacture HDDEs for United States commerce. The COC application must include, among other things, identification of the covered engine family, a description of the HDDEs and their emission control systems, all auxiliary emission control devices (AECDs), and test results from a test engine showing that the engine satisfies the applicable emission standards. 40 C.F.R. §§ 86.004-21, 86.007-21, 86.094-21, 86.096-21; *see also* EPA, *Advisory Circular Number 24-3: Implementation of Requirements Prohibiting Defeat Devices for On-Highway Heavy-Duty Engines* (Jan. 19, 2001). An AECD is “any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.” 40 C.F.R. § 86.082-2.

A related term, *defeat device* is an AECD “that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless: (1) Such conditions are substantially included in the Federal emission test procedure; (2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident; or (3) The AECD does not go beyond the requirements of engine starting.” 40 C.F.R. § 86.094-2. The EPA refuses to certify motor vehicle engines equipped with defeat devices. EPA, *Advisory Circular Number 24: Prohibition on use of Emission Control Defeat Device* (Dec. 11, 1972). For example, “onboard computer algorithms that improve fuel economy but increase NO_x emissions in diesel engines during highway driving by retarding timing during transient engine operating conditions and advanced timing during steady state operating conditions are illegal defeat devices.” EPA, *Heavy-duty Diesel Engines Controlled by Onboard Computers*, VPCD-98-13 (HD Engine), at 2 (Oct. 15, 1998); *see also* EPA Press Release, *DOJ, EPA Announce One Billion Dollar Settlement With Diesel Engine Industry for Clean Air Act Violations* (Oct. 22, 1998) (describing enforcement cases based on HDDE manufacturers’ use of fueling strategies to improve fuel economy but which also drastically increased NO_x emissions).

Alleged Violations

PDI manufactured, sold, offered for sale, or installed (or caused the foregoing with respect to) software installed on HDDE ECMs that was marketed as products called (among other things) “Big Boss ECMs.” A principal effect of these products was to bypass, defeat, or render inoperative elements of the HDDEs design that control emissions of regulated air pollutants. Specifically, PDI rendered inoperative the original engine manufacturers’ software (insofar as it controlled main injection timing) and replaced it with its own software that advanced the main injection timing of HDDEs. Also, PDI rendered inoperative the original engine manufacturers’ software (insofar as it received input from hardware used as emission control devices) and replaced it with its own software that allowed HDDEs to function without inputs from emission control devices. Both types of software increase engine power and fuel economy. As stated

above, fuel injection timing and hardware are devices and elements of design that HDDE manufacturers employ to meet emission standards, and which they must describe in detail in their applications to EPA for COCs.

The PDI software described above, whether installed on an HDDE's original ECM or on a replacement ECM, are identified by the table below.

Product No.	Engine Make	Model Year	Effect
716701	Catepillar	2003-2004	Advance Fuel Injection Timing
716702	Catepillar	2003-2004	Advance Fuel Injection Timing
716703	Catepillar	2003-2004	Advance Fuel Injection Timing
7161201	Catepillar	2005-2009	Advance Fuel Injection Timing
7161202	Catepillar	2005-2009	Advance Fuel Injection Timing
7161203	Catepillar	2005-2009	Advance Fuel Injection Timing
715001	Cummins	2003-2013	Advance Fuel Injection Timing
714101	Detroit	2003	Advance Fuel Injection Timing
714102	Detroit	2003	Advance Fuel Injection Timing
714001	Detroit	2004-2007	Advance Fuel Injection Timing
7161201-1	Catepillar	2008-2009	Bypass Emission Controls
7161201-2	Catepillar	2008-2009	Bypass Emission Controls
7161201-3	Catepillar	2008-2009	Bypass Emission Controls
7161201-4	Catepillar	2005-2007	Bypass Emission Controls
715001-1	Cummins	2003-2007	Bypass Emission Controls
715001-2	Cummins	2003-2007	Bypass Emission Controls
715001-3	Cummins	2008-2010	Bypass Emission Controls
715001-4	Cummins	2008-2010	Bypass Emission Controls
715001-5	Cummins	2011-2013	Bypass Emission Controls
715001-6	Cummins	2011-2013	Bypass Emission Controls
714001-1	Detroit	2004-2007	Bypass Emission Controls
714001-2	Detroit	2004-2007	Bypass Emission Controls
714201-1	Detroit	2008-2010	Bypass Emission Controls

PDI knew or should have known that these products were offered for sale or installed in order to bypass, defeat, or render inoperative devices or elements of design that control emissions of regulated air pollutants. The products replaced the original engine manufacturers' ECMs insofar as they managed the HDDE's fueling strategy. As described above, HDDE manufacturers design their ECMs to retard fuel timing as a primary way to control emissions, even though this method tends to reduce power and fuel economy. PDI's primary selling point for these products was to increase horsepower and fuel economy. The company's advertising stated: "Tuning is the simplest and most efficient way to unlock the horsepower and fuel economy that you deserve!"; and "Why settle for the limits of factory programming?"

Further, PDI knew or should have known that these products were offered for sale or installed on “motor vehicle engines.” Each product was designed and marketed for use on a specific make, model, and year of HDDE. The original manufacturer of each such HDDE obtained a COC from the EPA for these HDDEs. This certification unequivocally demonstrates that these HDDEs are “motor vehicle engines” because that is a product category for which manufacturers must obtain a COC.

Although PDI may have required purchasers of the “Big Boss ECMs” to state that they acknowledge that the product is only for “off-road use” or “competition use,” this does not change the EPA’s determination that PDI committed the violations described above.

As a legal matter, under the CAA there is no “competition only” exemption for motor vehicles or motor vehicle engines. “Motor vehicle” is defined as “any self-propelled vehicle designed for transporting persons or property on a street or highway.” CAA § 216(2); 42 U.S.C. § 7550(2); *see also* 40 C.F.R. § 85.1703 (further defining “motor vehicle”). These definitions make no exemption for motor vehicles or motor vehicle engines used for competition.¹ More generally, these definitions are based on vehicle attributes and make no exemption for vehicles based on their use.

The EPA has consistently adhered to the plain language definition of “motor vehicle.” *See, e.g.:*

- 39 Fed. Reg. 32,609 (Sept. 10, 1974) (EPA rejecting proposal to exempt from the definition of “motor vehicle” certain vehicles “based solely on the intended use by the purchaser” because “[t]he Agency views a policy of exclusion based upon owner intent to be virtually unmanageable and inconsistent with the Act because vehicles with on-road, off-road capabilities are typically operated in both situations”);
- EPA, *Fact Sheet: Exhaust System Repair Guidelines* (Mar. 13, 1991) (explaining that “it is not legal for anyone to ‘de-certify’ a motor vehicle for ‘off-road’ use,” and that it is not legal to bypass, defeat, or render inoperative a motor vehicle emission control system as that system was designed by the manufacturer, even where that system was already defeated);
- EPA fact sheet describing settlement of *United States v. Casper’s Electronics, Inc.*, Civ. No. 1:06-cv-03542 (N. D. Ill.) (July 10, 2007), <http://www2.epa.gov/enforcement/caspers-electronics-inc-clean-air-act> (last visited February 6, 2015) (“These [defeat] devices were advertised for ‘off road use only’ or ‘non-road use only.’ However, the O2 Sims were designed and marketed to be used in regular production vehicles (‘on road or ‘on highway’ vehicles), which is illegal under the Clean Air Act.”); and
- EPA Presentation at November 2010 Specialty Equipment Market Association Show, *Diesel Aftermarket Parts Discussion* (“Q1: Am I protected from selling a defeat device or

¹ In contrast, the CAA exempts from the definition of “nonroad vehicle” and “nonroad engine” those vehicles and engines used solely for competition. CAA § 216(10)–(11); 42 U.S.C. § 7550(10)–(11). The EPA has implemented regulations describing how to exempt from CAA requirements nonroad vehicles and engines used solely for competition. 40 C.F.R. § 1068.235. These regulations explicitly do not apply for motor vehicles and motor vehicle engines. 40 C.F.R. § 85.1701(a)(1).

tampering as long as I inform my customers that they can only use my parts 'off-road' or 'for racing use only' or that the parts are 'not for installation on emission-controlled vehicles'? A: No, if the parts are designed for and intended to be installed on certified motor vehicles, EPA considers you to still be liable under the CAA prohibited acts.”).

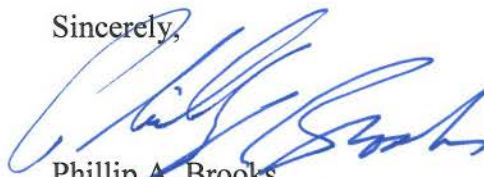
As a factual matter, it appears that most or all of the products identified by this Notice of Violation were not used solely for off-road use or competition. The “Big Boss ECMs” were designed and marketed to improve fuel economy, which is a selling point for those seeking to save costs associated with “transporting persons or property on a street or highway,” but not for competition purposes. Next, PDI’s internet postings on its own website and elsewhere prominently feature heavy-duty diesel trucks that use PDI ECMs and that bear state-issued license plates or that are used as working trucks to haul freight within the United States. Some of these same trucks are also featured on videos of PDI’s annual Customer Appreciation Day, where these trucks competed with others to achieve very high horsepower output. In doing so, these motor vehicles achieved horsepower well above the original engine manufacturers’ certified maximum horsepower and emitted large amounts of opaque smoke from their exhaust—both demonstrating how PDI’s ECMs defeated the manufacturers’ emission control systems.

Enforcement

The EPA may bring an enforcement action for these violations under its administrative authority or by referring this matter to the United States Department of Justice with a recommendation that a civil complaint be filed in federal district court. CAA §§ 204, 205, 42 U.S.C. §§ 7523, 7524. Persons violating section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), are subject to an injunction under section 204 of the CAA, 42 U.S.C. § 7523. Persons violating section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), are subject to a civil penalty of up to \$3,750 for each violation. CAA § 205(a), 42 U.S.C. § 7524(a); 40 C.F.R. § 19.4.

The EPA is available to discuss this matter with you in further detail, upon your request. Please contact Evan Belser, the EPA attorney assigned to this matter, within 10 days of receipt of this Notice of Violation. Mr. Belser can be reached at (202) 564-6850 or belser.evan@epa.gov.

Sincerely,



Phillip A. Brooks
Director
Air Enforcement Division
Office of Civil Enforcement